DESIGN PANEL NO. 40 11-18-97 Thru 11-21-97

OPERATING SYSTEM CSC - Oscar Brooks

OVERVIEW

The Operating System CSC provides a stable development and operational platform to execute custom/commercial code in realtime. The Operating System CSC consists of generating and configuring the Operating System baseline image as well as the distribution of that image to the client hardware.

ACTIONS	ACTIONEE	DUE DATE	STATUS
• Assign a sub-system engineer for the Boot/CM server	Kirk Lougheed	12-1-97	In work

*Approved

DESIGN PANEL NO. 40 11-18-97 Thru 11-21-97

SYSTEM SERVICES NETWORK SERVICES CSC - John Porter

OVERVIEW

The Network Services CSC for Thor will include the following:

- Basic Communication Service
- Network APIs
- Activity Separation

ACTIONS	ACTIONEE	DUE DATE	STATUS
• The definition and content of the development environment and the operational environment needs to be provided.	Oscar Brooks	12-5-97	In work
• Update the Conops document to provide top level OPS, scenarios that describe. 1. Loading, initializing and starting a preload “warm spare” CCWS. 2. Loading, initializing and staring an unloaded “cold spare” CCWS. 3. Initializing process in all CLCS platforms and how the Set Master and Set Test Master are involved.	Steve Altmus	12-15-97	In work

*Approved

DESIGN PANEL NO. 40 11-18-97 Thru 11-21-97

INITIALIZATION AND TERMINATION SERVICES - Steve Reeves

OVERVIEW

The Initialization and Termination Services is an integrated support function which executes on the CCP, DDP, and HCI platforms.

ACTIONS	ACTIONEE	DUE DATE	STATUS
• The definition of owner for processes on CLCS. The Initialization and Termination Services will respond to this definition.	Rodney Davis	12-15-97	In work
• For the ATLAS delivery thread for “Master Console” type applications, including an OPS scenario is required.	Jeff Lee	12-15-97	In work

*Approved

DESIGN PANEL NO. 40 11-18-97 Thru 11-21-97

TIMER SERVICES - Steve Reeves

OVERVIEW

The Timer Services CSC will provide support for application access to the Coordinated Universal Time (UTC) value. Timer Services will also process commands to set the value of the Countdown Time (CDT) or Mission Elapsed Time (MET) and to place a hold on the CDT/MET. Timer Services will publish via Data Distribution the CDT/MET value, the CDT/MET status, the time of the next hold, and the time of the next resume.

Timer Services will also allow applications to request interrupts after a delay of a specified time, or at a specified UTC value, CDT value, or MET value. Timer Services will provide a stopwatch function.

ACTIONS	ACTIONEE	DUE DATE	STATUS
The capability of UTC to be distributed in the system needs more refinement.	Kirk Lougheed	Atlas	In work

*Approved

DESIGN PANEL NO. 40 11-18-97 Thru 11-21-97

TEST BUILD AND CONTROL (TBL) CSCI - Charlie Filko

OVERVIEW

Test Build and Control resides in the Shuttle Data Center (SDC) and provides the capability to create, populate, and install the tables and files that make up a Test Configuration Identifier (TCID). For each TCID, tables will be created for a CLCS Function Designator (FD) Directory, the CLCS Gateway Processor(s), a TCID Descriptor, and other tables as required. Tables will be populated with data extracted from the CLCS Database Shuttle Automated Function Executive (DBSAFE) Database* and data derived through software processing. Installation will generate deliverable files based on the content of the TCID tables, and install the deliverable TCID files, application software files (including Health and Fusion applications) and Dynamic Data Visualization Tool (DDVT) files into the TCID Staging Area for subsequent transfer to a CLCS set.

ACTIONS	ACTIONEE	DUE DATE	STATUS
No Action required			

*Approved

* For Redstone, non-GSE data will be extracted from the Central Data Subsystem's FD Directory and loaded into the FD Directory tables in the SDC. Only GSE and Fusion FD data will be obtained from the CLCS DBSAFE Database.

DESIGN PANEL NO. 40 11-18-97 Thru 11-21-97

APPLICATION SERVICES - Julia Samson

OVERVIEW

Application Services (CM symbol ASV) is a collection of Object Oriented classes that encapsulate APIs providing an interface between User or Systems Applications and Systems Services. This protects applications from any changes in the underlying Systems Services interface, as well as protecting system services from changes in CLCS application tools. Subsequent adaptations to System Services can thus be accommodated through Application Services without altering the applications themselves.

Application Services CSCs are:

- FD Services (Thor)
- Constraint Management Services (Thor)
- User Display Services (Thor)
- Math Model Services (post-Redstone)
- End Item Manager Services (Thor)
- Prerequisite Control Services (Thor)
- Test Application Script (TAS) Services (post-Thor)
- User Advisory Services (post-Thor)
- Sub-System Services (Thor)

ACTIONS	ACTIONEE	DUE DATE	STATUS
No Action required			
*Approved			

DESIGN PANEL NO. 40 11-18-97 Thru 11-21-97

DESKTOP DEBUG ENVIRONMENT

OVERVIEW

This thread establishes the application software Desktop Debug Environment (DDE) by building on the Redstone Test Bed Pathfinder products. Application software debug is performed jointly by the DDE and the IDE. Application software validation is performed in the IDE. The DDE provides a standalone light weight capability for individual application software developers to develop and debug all types of RTPS user application software products (including regression test scripts) from the office environment. The DDE is the application software primary debug tool and is capable of debugging the bulk of applications software. The tool is light weight and has limitations necessary to make the cost of developing the tool affordable and executable in the existing desktop office computers. The IDE provides full debug of all application software functions but is a limited resource.

ACTIONS	ACTIONEE	DUE DATE	STATUS
When will the milestones 1, 2, and 3 show up on the schedule, and how will they be tested? Milestones: 1. Support S/L Displays, in read only mode, obtaining data from a null math model analogous to $CDBFRW. 2. Provide read only support to S/L displays obtaining data from a SGOS and Matrix-X math models. 3. Support basic EIM debug and CRBA communication between EIMs and S/L displays to EIMs.	Al Folensbee	12-5-97	In work

*Approved

DESIGN PANEL NO. 40 11-18-97 Thru 11-21-97

PCL SERVICES - My Le

OVERVIEW

Prerequisite Control Logic (PCL) applications exist to prevent users from issuing commands when end items are not properly configured. PCL protects against commands issued from any and all application types, including the Command Processor, User Displays, End Item Managers, and Test Application Scripts. PCL also provides a level of command safety that supports contingency or off-nominal situations requiring manual command inputs at the FD level. PCL shall exist as a separate function that independent of End Item Management. PCL provides *additional* safety margin above and beyond that provided by other application software (i.e., End Item Management).

ACTIONS	ACTIONEE	DUE DATE	STATUS
• Command Management The capability for command management to indicate a PCL sequence was responsible for a command that was issued needs to be defined. Additional requirements should come through Design Panel.	Doug Hammond	3-30-98	In work
• Review the current scheme for Command Management, the dispatch of Constraint Notification to RCL, and the invocation of PCL. Also take LDB and GSE G/W priority commanding requirements. Determine if priority Queues should be added along the command path to ensure that priority commands can be timely executed even if non - priority commands are flooding the system temporarily due to a runaway application.	ERP		

*Approved

DESIGN PANEL NO. 40 11-18-97 Thru 11-21-97

END TO END GATEWAY DATA DEMONSTRATION THREAD - Shawn Quinn

OVERVIEW

This thread will document the ability to collect data from all CCMS link types. The purpose of this thread is to lay the foundation for orbiter power up in Atlas.

Highlights:

- produce the equivalent data stream produced by the Consolidated System Gateway using real Gateways.
- Provide displays for all data types on all links.

Demonstrate data collection and transfer from the Video Simulation Interface thru the Gateway, DDP an HCI for those displays.

ACTIONS	ACTIONEE	DUE DATE	STATUS

No Action required

*Approved

DESIGN PANEL NO. 40 11-18-97 Thru 11-21-97

COMMON GATEWAY SERVICES CSCI - Justin Beaver

OVERVIEW

The Common Gateway Services CSCI provides the Gateway functions that are common among all Gateway types. It is software resident on both the Gateway Control Processor (GCP) and the Front End Process Controller (FEPC). The Common Gateway Services CSCI's primary services are to provide and manage network interfaces for the Gateway, provide common command routing and processing functions, and provide Gateway wide subsystem integrity.

ACTIONS	ACTIONEE	DUE DATE	STATUS

*Approved

DESIGN PANEL NO. 40 11-18-97 Thru 11-21-97

COMMAND SUPPORT CSCI - Walter Clavette

OVERVIEW

Command Support facilitates the user and user applications in commanding the RTPS in the Command and Control Workstation (CCWS) and Command and Control Processor (CCP). There are three flows of commanding. The first is through the Command Processor or Command Scripter user interfaces on the CCWS. The second is through a GUI user application on the CCWS. The third is through a user application (EIM or TAS) executing in the CCP.

In the first command flow the Command Processor user interface accepts text input. The text is processed to form a command and then Application Services is called to create and issue the command through the Command Interface. Commands are received by the CCWS resident Command Management CSC. Command Management validates the command authentication and forwards the command to the CCP. A CCP resident Command Management CSC receives commands from CCWSs, performs authentication and FD PCL validation, and forwards the commands to the Gateways. Gateway Command Responses are sent back to the CCP Command Management and are then sent to the appropriate source.

In the second command flow, GUI applications command through "Hot Spots" on their screen. These applications interface with Application Services and the Commanding Interface to issue commands to the CCWS resident Command Management. From this point, command flow is similar to the Command Processor command flow.

The third command flow from a user application differs from the previous two flows in that commands originate from user applications executing on the CCP. The user applications are commanded through the CORBA interface. This interface calls the Authentication Interface for command Authentication. The user applications interface with Application Services and Commanding Interface to create objects and issue commands. Commands are sent directly to Command Management on the CCP where the command is authenticated for the application. Commands are then PCL checked before being routed to the appropriate Gateway. Gateway Command Responses are sent back to the CCP Command Management and are then sent to the appropriate source.

ACTIONS	ACTIONEE	DUE DATE	STATUS
No Action required			
*Approved			

DESIGN PANEL NO. 40 11-18-97 Thru 11-21-97

SYSTEM VIEWERS CSCI - Gary Hrezo

OVERVIEW

System Viewers CSCI presentation consisted of the following:

Data Browser

The Data Browser provides the Checkout and Launch Control System (CLCS) with a method for selecting a Function Designator (FD) from a list of FDs. A list of FDs may be selected.

FD Details Viewer

The FD Details Viewer provides the Checkout and Launch Control System (CLCS) with the means to display on the Command and Control Workstation (CCWS) information pertaining to a Function Designator (FD). Data may be viewer in tabular format. Plotting support for data viewing is provided in the Plotting Viewer.

Data Fusion Viewer

The Data Fusion Viewer is a part of the FD Details Viewer. The Data Fusion Viewer provides the Checkout and Launch Control System (CLCS) the ability to display detailed information pertaining to a fusion-based Function Designator (FD) to the Command and Control Workstation (CCWS). The Data Fusion Viewer displays details about a fused FD, its component FDs and the algorithm used to calculate the fused FD.

Data Health Viewer

The Data Health Viewer provides the Checkout and Launch Control System (CLCS) with a display to view the health and status of a Function Designator (FD) or set of FDs on CCWS. The Data Health Viewer is part of the enlarged FD Detail Viewer.

PCL Viewer

The PCL Viewer provides the Checkout and Launch Control System (CLCS) the ability to display on the Command and Control Workstation (CCWS) detailed information pertaining to a Prerequisite Control Logic Function Designator (FD). The PCL Viewer is part of the FD Details Viewer. The PCL Viewer displays details about a PCL.

Coefficients Viewer

The Coefficient Viewer provides the Checkout and Launch Control System (CLCS) the ability to display the coefficients on the Command and Control Workstation (CCWS) and allows the user to change these coefficients. The Coefficient Viewer is part of the FD Details Viewer.

DESIGN PANEL NO. 40 11-18-97 Thru 11-21-97

Constraint Details Viewer

The Constraint Details Viewer is part of the FD Details Viewer. The Constraint Details Viewer is executed on the CCWS. The Constraint Details Viewer will provide the user a way to change the constraint expression.

DMON Viewer

The DMON Viewer provides the Checkout and Launch Control System (CLCS) with a capability of providing facility to examine value, units, health, constraints, and time of update for one or more FDs.

Constraint Viewer

The Constraint Viewer is executed on the CCWS. The Constraint Viewer is invoked from the Control Navigation System (CNS) task bar. When a transition is encountered a transition message will be displayed by the Constraint Viewer.

ACTIONS	ACTIONEE	DUE DATE	STATUS
The capability to effectively identify constraints for viewing needs to be defined.	Gary Hrezo	Atlas Requirements Design Panel for System Viewers	In work

*Approved

DESIGN PANEL NO. 40 11-18-97 Thru 11-21-97

SYSTEM STATUS VIEWER - Bill Weiner

OVERVIEW

The System Status Viewer provides the Checkout and Launch Control System (CLCS) with a viewer that displays the overall status of the Test Set and the detailed status of any subsystem in the Test Set.

Subsystem Integrity (SSI) running in each of the subsystems monitors the system health, status, and activity within the local subsystem and introduces this data into the data stream as a set of System Status FDs. These System Status FDs are then processed by Data Distribution as would any other FD. The System Status Viewer receives this status data via User Displays Services and provides a Command and Control Workstation (CCWS) display that shows system status of each subsystem and the overall system status of the Test Set.

ACTIONS	ACTIONEE	DUE DATE	STATUS
No Action required			
*Approved			